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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,277	09/03/2004	Christopher Brett Ward	4046-022	5676

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EXAMINER	
PHASGE, ARUN S	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
10/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/501,277	WARD, CHRISTOPHER BRETT	
	Examiner	Art Unit	
	Arun S. Phasge	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 20-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasaaian in view of Leonard of record for reasons of record.

The use of the spent sulfuric acid from the electrolysis stage as the sulfuric acid used in the leach as claimed in claim 53 would have been an obvious embodiment to the ordinary artisan motivated by the economic considerations to re-use sulfuric acid.

The Leonard patent teaches the maintenance of the concentrations within the range claimed in claim 54. Accordingly, the claims as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made, because the Leonard patent teaches the range of concentration used in the art to electrowin manganese.

Response to Arguments

Applicant's arguments filed 7/30/08 have been fully considered but they are not persuasive.

Applicants argue that the prior art differs from the instant claimed method by stating, "By contrast, in the prior art (Kasaaian), the leach is conducted with sulphuric acid, not with sulphur dioxide. Kasaaian actually describes a process of sintering of manganese dioxide ore, which is fundamentally different from the leach of the present invention. This sintering of manganese dioxide ore first converts the lower oxides of

manganese contained in the ore (MnO= and Mn203) to manganomanganic oxide (Mn304), by using sulphur dioxide as a reducing agent; this takes place before the Mn30, is subsequently leached with sulphuric acid. As such, the prior art teaches leaching with sulphuric acid only *not* with sulphur dioxide, which is used there only as a reducing agent."

Example 1 of the Kasaaian patent teaches a leach process that comprises the use of sulfuric acid with sulphur dioxide bubbled through the tank (see columns 4 and 5 showing example 1).

Therefore, the examiner's reading that the "Kasaaian patent discloses the claimed method for the hydrometallurgical processing of manganese containing materials is correct.

Applicants next attack the combination by stating, "the Examiner's citation of the Leonard patent, allegedly to :supply that "missing" element, also evinces an unfortunate misunderstanding, Leonard simply suggests, at column 4, lines 39-42, that an amount of dithionate may be "included in the electolyte (sic)"; in other words, Leonard
suggests that dithionate be introduced into the reaction mixture as a starting material, *before* the sulphur dioxide gas is passed through the mixture and the leach reaction takes place. On the other hand, in applicant's claimed method, the dithionate ions are products (or, more aptly, by-products)of the leaching reaction, as can be understood from the specification, when taken together with the use of the phrase "generated in the leach solution" in applicant's independent claim 29.

Therefore, it is the amount of dithionate formed as a reaction product, *not* the amount used as a starting material, which applicant has realized must, be controlled, in the context of a leach reaction for manganese containing materials that utilizes sulphur dioxide, not sulphuric acid, as the leaching agent. As such, the combination of Kasaaian and Leonard in the manner postulated by the Examiner (that is, by "modifying" the Kasaaian disclosure with the teachings of Leonard) is inappropriate and would certainly not be a combination that a skilled worker in this field would arrive at or consider in this context, and in any event, would not yield applicant's invention as presently claimed."

The Leonard patent states in col. 4, beginning in line 33, "When the present invention is utilized in the sulfate process for the production of electrolytic manganese according to one preferred procedure, the **operating variables** can be conveniently adjusted within the following limits." The patent does not state as unfortunately inferred by applicants, that the amount of the dithionate is used as a starting material, since these values are operating variables. Indeed, the whole paragraph is the control of different limits during the process and not merely at the start of the process, since the reference does not even use the words "as a starting material."

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to use the clear teachings of Leonard to control the amount of the dithionite in a sulfate process for the electrolytic formation of electrolytic manganese.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arun S. Phasge/
Primary Examiner, Art Unit 1795

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